REMARKS

In the Office Action dated on October 1, 2001, the Primary Examiner reviewed claims 1-53 of the U.S. Patent Application No. 09/293,089, with the result that claims 1-36 are allowed after election, for which Applicant is sincerely grateful, and claims 37-53 are deemed to draw four restrictions under 35 U.S.C. 121.

In response, Applicant have elected and amended claims 48-53 and add claim 54-63 all under Group V restriction as defined by the Primary Examiner. Claims 54 and 55 recite Applicant's energy-conserving microprocessor or CPU system with specific functions of respectively de-actuating the keep-alive circuitry and of cooling, which are embodied in the context of Applicant's specification and FIGS. 2-6 (especially FIG. 5). Claims 56-63 are similar to claims 48-55 except for being in a method format. No new matter is presented in the above amendments for the divisional filing. Favorable consideration and allowance of the claims are respectfully requested as Applicant have followed the Primary Examiner's guidance on restrictions in view of the above amendments and the following remarks.

As elaborated in Applicant's SUPPLEMENT TO PRELIMINARY AMENDMENT respectfully faxed on September 28, 2001, Applicant recite the energy-conserving microprocessor or CPU system comprising keep-alive circuitry for performing keep-alive or auxiliary information processing when receiving keep-alive or auxiliary power, so as to allow a computer to perform simple logical or decoding operations such as playing an audio CD or a DVD, or writing information down-loaded from the Internet to a hard-disk drive, without requiring the use of main (or high-computation-power) circuitry, for the first time.

In contrast, conventional wisdom keeps pushing a higher speed for a microprocessor or CPU, which requires to consume and thus waste more energy inevitably once remaining in operations. Another dilemma of the conventional practice is that the existing computers have being designed to be either operable only in a normal operating state, or inoperable in a standby state, suspend state and shutdown state. In other words, there is no energy-conserving operating state in between. As a result, in the normal operating state, a conventional microprocessor always consumes maximal and mostly unnecessary energy in order to remain operable or even ready (i.e., waiting) for performing information processing, which then requires heat dissipation consistently and further incurs energy waste as well as unpleasant or annoying noise. The more powerful is the CPU, the worse will be on the issues on heat dissipation, energy waste and annoying noise. On the other hand, once entered the conventional standby state or the shutdown state, the conventional microprocessor becomes essentially inoperable.

It is believed that Applicant perceive and solve the unsuggested, unrecognized, and unsolvable

problem in energy waste and annoying noise during information processing, for the first time. Furthermore, Applicant's energy-conserving microprocessor (or CPU) system or the method of the same solves the prior inoperability of a conventional computer when entered into the traditional sleep or standby state, for the first time. After all, the operation of a computer is mostly bounded by our human limitations in typing and reading. A conventional keyboard is restricted to generate 30 key inputs per second at best, i.e., 30 Hz only. Thus, a microprocessor and its host computer is often idled waiting for a user's input or operated mostly at speed much, much lower than any known slowest computer. Accordingly, by providing a low-computation-power state or reduced-clocking speed, Applicant's divisional filing not only renders a computer instantly accessible but eliminates any unnecessary energy waste and annoying noise during operations, for the first time. Neither of these distinct features is taught by any reference of record. Nor of any conventional microprocessor or CPU can be remained operable for performing information processing once its host computer enters the standby or sleep state.

In view of the above, it is believed that Applicant's claims define patentable novelty and uniqueness over all the references of record. It is therefore respectfully requested that this divisional application be given favorable consideration. Should the Examiner have any questions with respect to any matter now of record, Applicant may be reached at (248) 737-0133.

Respectfully submitted,

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Attachments: Appendix A